What is claimed is:

1. A magneto-optical recording medium wherein a magnetic domain is expanded to reproduce information from the expanded magnetic domain by irradiating the magneto-optical recording medium with a reproducing light beam comprising:

a recording layer which is formed of a rare earth transition metal;

a reproducing layer which is formed of a rare earth transition metal; and

an auxiliary magnetic layer which is formed of a magnetic material and which is arranged between the recording layer and the reproducing layer,

wherein a transition metal, which is contained in the rare earth transition metal at a surface of the reproducing layer on a reproducing light beam-incoming side, has a composition ratio which is higher than a composition ratio of a transition metal which is contained in the rare earth transition metal at a surface of the reproducing layer on a side opposite to the reproducing light beam-incoming side.

2. The magneto-optical recording medium according to claim 1, wherein the composition ratio of the transition metal contained in the rare earth transition metal at the surface of the reproducing layer on the reproducing light beam-incoming side is higher by a range of 0.5 at. % to 4.5

at. % than the composition ratio of the transition metal contained in the rare earth transition metal at the surface of the reproducing layer on the side opposite to the reproducing light beam-incoming side.

3. The magneto-optical recording medium according to claim 1, wherein an increment amount of a composition ratio of the transition metal contained in the rare earth transition metal at an intermediate position in a thickness direction in the reproducing layer with respect to the composition ratio of the transition metal contained in the rare earth transition metal at the surface of the reproducing layer on the side opposite to the reproducing light beam-incoming side is not more than 1/4 of an increment amount of the composition ratio of the transition metal contained in the rare earth transition metal at the surface of the reproducing layer on the reproducing light beam-incoming side with respect to the composition ratio of the transition metal contained in the rare earth transition metal at the surface of the reproducing layer on the side opposite to the reproducing light beam-incoming side.

4. The magneto-optical recording medium according to claim 1, wherein an increment amount of a composition ratio of the transition metal contained in the rare earth transition metal at an intermediate position in a thickness direction in the reproducing layer with respect to the

composition ratio of the transition metal contained in the rare earth transition metal at the surface of the reproducing layer on the side opposite to the reproducing light beam-incoming side is not more than 1/8 of an increment amount of the composition ratio of the transition metal contained in the rare earth transition metal at the surface of the reproducing layer on the reproducing light beam-incoming side with respect to the composition ratio of the transition metal contained in the rare earth transition metal at the surface of the reproducing layer on the side opposite to the reproducing light beam-incoming side.

5. The magneto-optical recording medium according to claim 1, wherein the composition ratio of the transition metal contained in the rare earth transition metal which forms the reproducing layer is increased continuously at positions nearer to the surface of the reproducing layer on the reproducing light beam-incoming side in a thickness direction in the reproducing layer.

6. The magneto-optical recording medium according to claim 1, wherein the recording layer, the auxiliary magnetic layer, and the reproducing layer are subjected to magnetic exchange coupling in a state in which the magneto-optical recording medium is not irradiated with the reproducing light beam; the magnetic domain, which is transferred from the recording layer to the reproducing

layer, is expanded to reproduce information from the expanded magnetic domain by irradiating the magneto-optical recording medium with the reproducing light beam to heat to a temperature not less than a temperature at which an exchange coupling force between the recording layer and the reproducing layer is cut off.

7. The magneto-optical recording medium according to claim 1, wherein the reproducing light beam is radiated onto the reproducing layer, the auxiliary magnetic layer, and the recording layer without passing through a substrate.

8. The magneto-optical recording medium according to claim 1, further comprising an enhancing layer which is formed of an SiN film and which is disposed on a surface of the reproducing layer on a side opposite the auxiliary magnetic layer.

9. A magneto-optical recording medium wherein a magnetic domain is expanded to reproduce information from the expanded magnetic domain by irradiating the magneto-optical recording medium with a reproducing light beam comprising:

a recording layer which is formed of a rare earth transition metal;

a reproducing layer which is formed of a rare earth

transition metal; and

an auxiliary magnetic layer which is formed of a magnetic material and which is arranged between the recording layer and the reproducing layer,

wherein the reproducing layer is formed with a first reproducing layer and a second reproducing layer, the second reproducing layer is arranged on a reproducing light beam-incoming side as compared with the first reproducing layer, and a transition metal, which is contained in the rare earth transition metal which forms the second reproducing layer, has a composition ratio which is higher than a composition ratio of a transition metal which is contained in the rare earth transition metal which forms the first reproducing layer.

10. The magneto-optical recording medium according to claim 9, wherein the composition ratio of the transition metal contained in the rare earth transition metal which forms the second reproducing layer is higher by a range of 0.5 at. % to 4.5 at. % than the composition ratio of the transition metal contained in the rare earth transition metal which forms the first reproducing layer.

11. The magneto-optical recording medium according to claim 9, wherein the recording layer, the auxiliary magnetic layer, and the reproducing layer are subjected to magnetic exchange coupling in a state in which the magneto-

optical recording medium is not irradiated with the reproducing light beam; the magnetic domain, which is transferred from the recording layer to the reproducing layer, is expanded to reproduce information from the expanded magnetic domain by irradiating the magneto-optical recording medium with the reproducing light beam to heat to a temperature not less than a temperature at which an exchange coupling force between the recording layer and the reproducing layer is cut off.

12. The magneto-optical recording medium according to claim 9, wherein the reproducing light beam is radiated onto the reproducing layer, the auxiliary magnetic layer, and the recording layer without passing through a substrate.

13. The magneto-optical recording medium according to claim 9, further comprising an enhancing layer which is formed of an SiN film and which is disposed on a surface of the reproducing layer on a side opposite the auxiliary magnetic layer.

14. A method for producing the magneto-optical recording medium as defined in claim 1, comprising the steps of forming the reproducing layer, the auxiliary magnetic layer, and the recording layer by performing sputtering with targets of transition metals and rare earth

metals which form the reproducing layer, the auxiliary magnetic layer, and the recording layer, wherein an electric power, which is input to the target of the transition metal or the rare earth metal which forms the reproducing layer, is changed according to a sputtering time when the reproducing layer is formed by performing the sputtering.

15. A method for producing the magneto-optical recording medium as defined in claim 9, comprising the steps of forming the reproducing layer, the auxiliary magnetic layer, and the recording layer by performing sputtering with targets of transition metals and rare earth metals which form the reproducing layer, the auxiliary magnetic layer, and the recording layer, wherein an electric power, which is input to the target of the transition metal or the rare earth metal which forms the reproducing layer, is changed according to a sputtering time when the reproducing layer is formed by performing the sputtering.